TECHNIQUES FOR IMPROVING VIRTUAL CHANNEL MANAGEMENT AND MAINTENANCE IN A NETWORK ENVIRONMENT

Abstract of the Disclosure

The invention is directed to a flexible method of allocating groups of virtual circuits in a network as a virtual circuit bunch. A virtual circuit bunch of arbitrary number can be set up with the ease of setting up a single virtual circuit. A single virtual circuit bunch can have plural destinations. Further, a virtual circuit bunch can be routed to the same destination over different routes. Connections across the network can be initiated as separate virtual circuits and then be grouped together as a virtual circuit bunch. The implementation of virtual circuit bunches permits rapid setup of virtual circuits and reduced table sizes at individual nodes of the network. A fast connect service can be implemented using virtual circuit bunches without establishing a connection by assigning a fast connect packet to one virtual circuit of a virtual circuit bunch. Virtual circuit bunches permit cell interleaving problems found in ATM switches to be circumvented in a particularly convenient way.